LOS ANGELES & SEAWOLF Class Submarines SSM / ICW Integration

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Los Angeles Class Submarines SSM / ICW Integration

- Topics
  - Goal / Background
  - ATIS Overview
  - Integrated Product Data Network (IPDN) & Multimedia ScriptWriter (MSW) Life-cycle Publishing Approach
    - Publishing System Process Lane Improvements
      - SSM Linking Process
    - ICW Conversion Process Overview
      - ICW Linking Process
  - Integrated SSM-ICW Simulation

CBT, ICW, & CBI interchangeable for electronic training media.

Overall Goal

- Convert the Los Angeles and SEAWOLF Qualifications ICW to HTML
- Implement a life-cycle storage solution for downstream SCORM use
- Link the SSMs in HTML to the ICW and vice versa
- Develop a robust deployment strategy
- Reproduce, test and deliver ATIS-compliant CD-ROMs for both products

Background

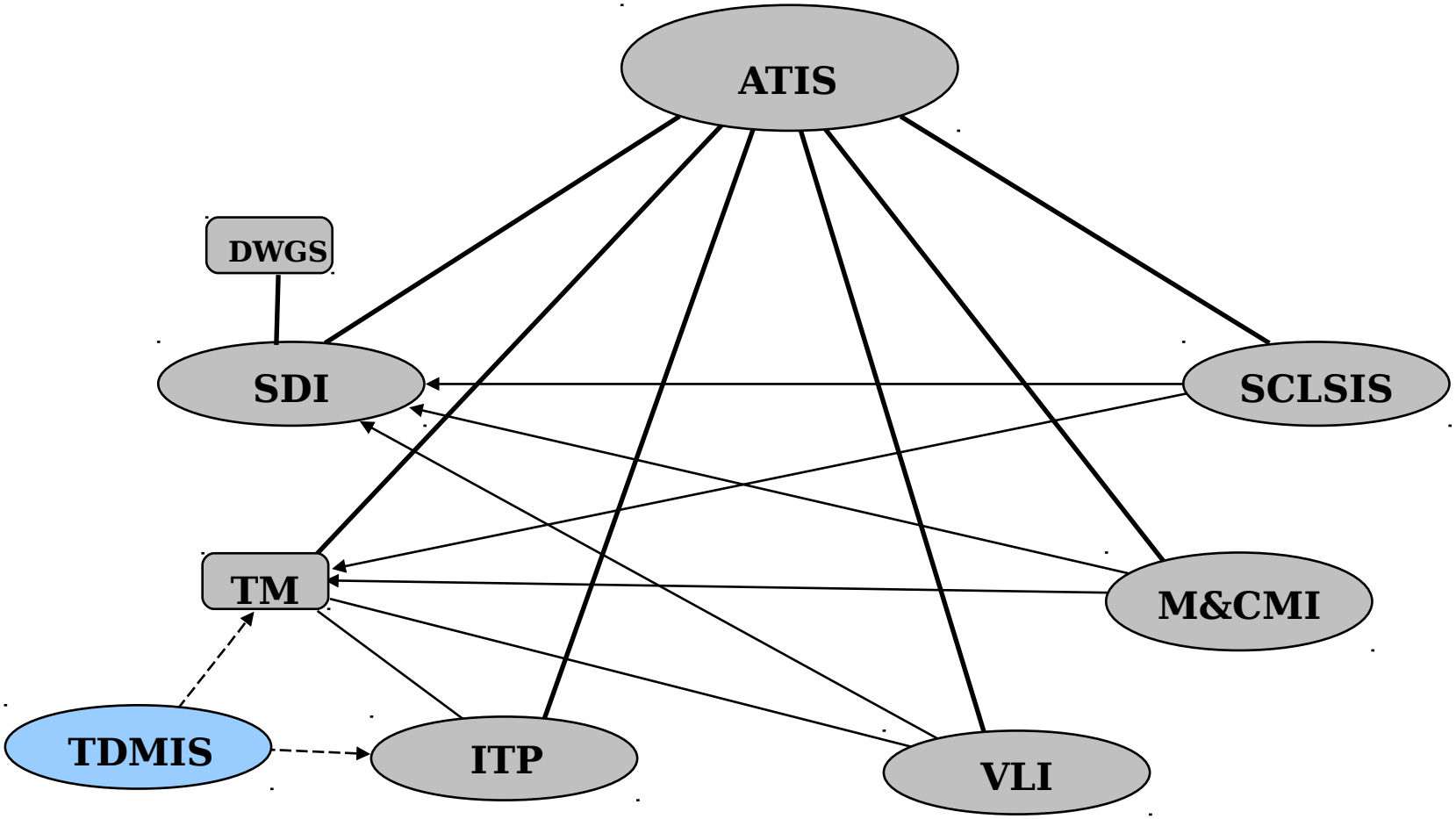
- Task initiated in FY00 - Phase 1 ‘Proof of Concept’

- OCT 00 – OCT 02 – Various tasks awarded for conversion
  - 43 total courses
  - 84 instructional hours
  - Includes basic SCORM compliance for all conversion work

Current SEAWOLF Conversion

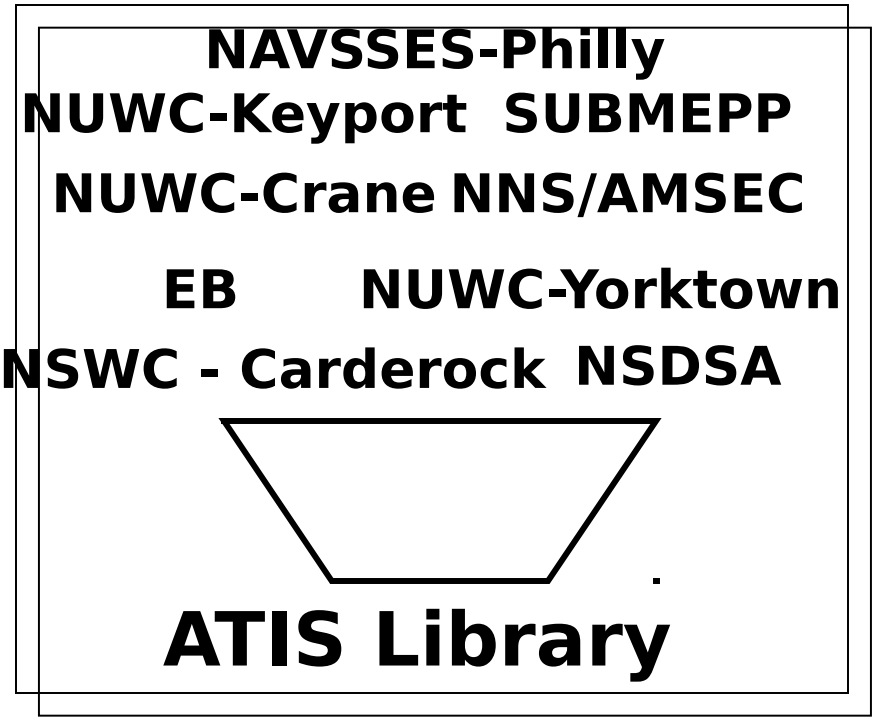
- 10/1/03 - 9/30/04 - Various tasks awarded for conversion
  - 47 total courses
  - 75 instructional hours
  - Includes SCORM compliance for all conversion work

ATIS Modules



Digital Products Distribution

- **Quarterly Cycle**
  - **SSN688 Class**
    - Jan, April, July, Oct
    - 200+ customers
  - **SSN21 Class**
    - Feb, May, Aug, Nov
    - 90+ customers

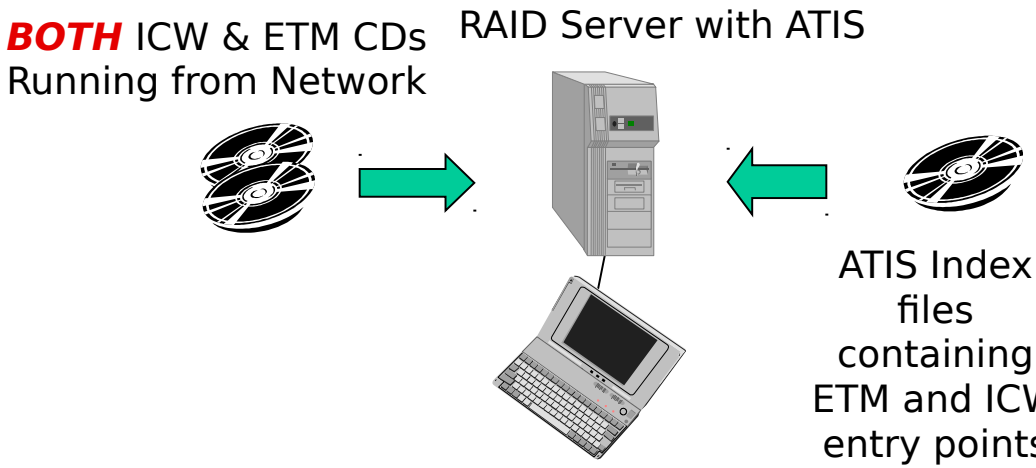


- Approximately 250,000 Pages Loaded Representing 250 TMs
- In the Last 12 Months: 6,286 CDs to 466 Sites - Quarterly Updates

Deployment Strategies - Varied and Flexible

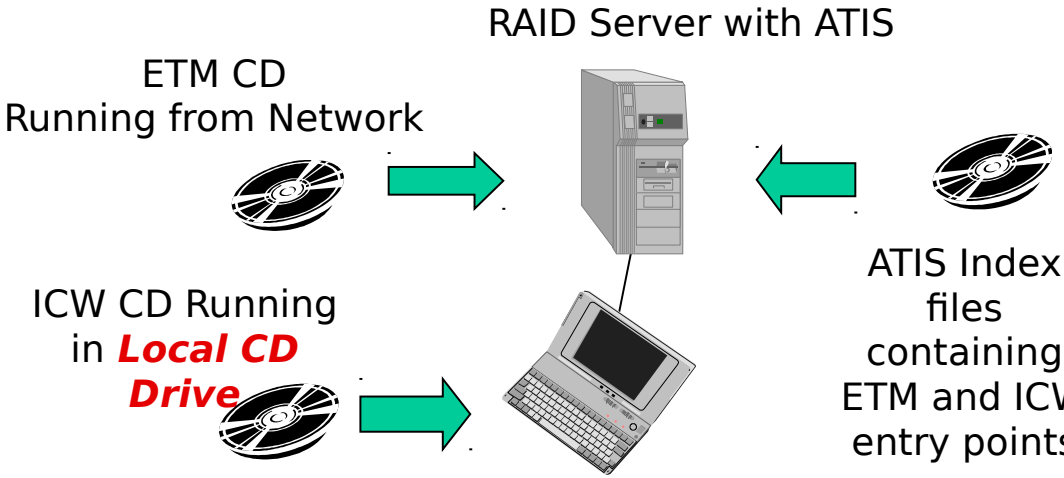
1A. ATIS RAID (Optimal)

- ***Both the SSM ETM and ICW are installed on the RAID Server***
- ***Linked together via network ATIS***



1B. ATIS RAID / ICW Local

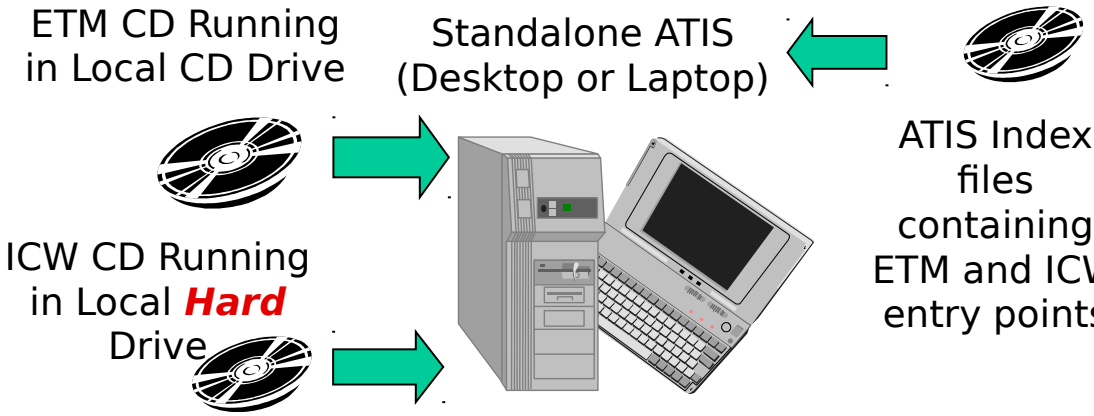
- ***If bandwidth or storage is a concern***
- ***ATIS simply will prompt user for location of ICW CD***


RAID Server with ATIS
ETM CD
Running from Network
ICW CD Running in Local CD Drive
ATIS Index files containing ETM and ICW entry points

Deployment Strategies (cont'd)

2B. ATIS Standalone / ICW Local Hard Drive

- ***Eliminates CD swapping***

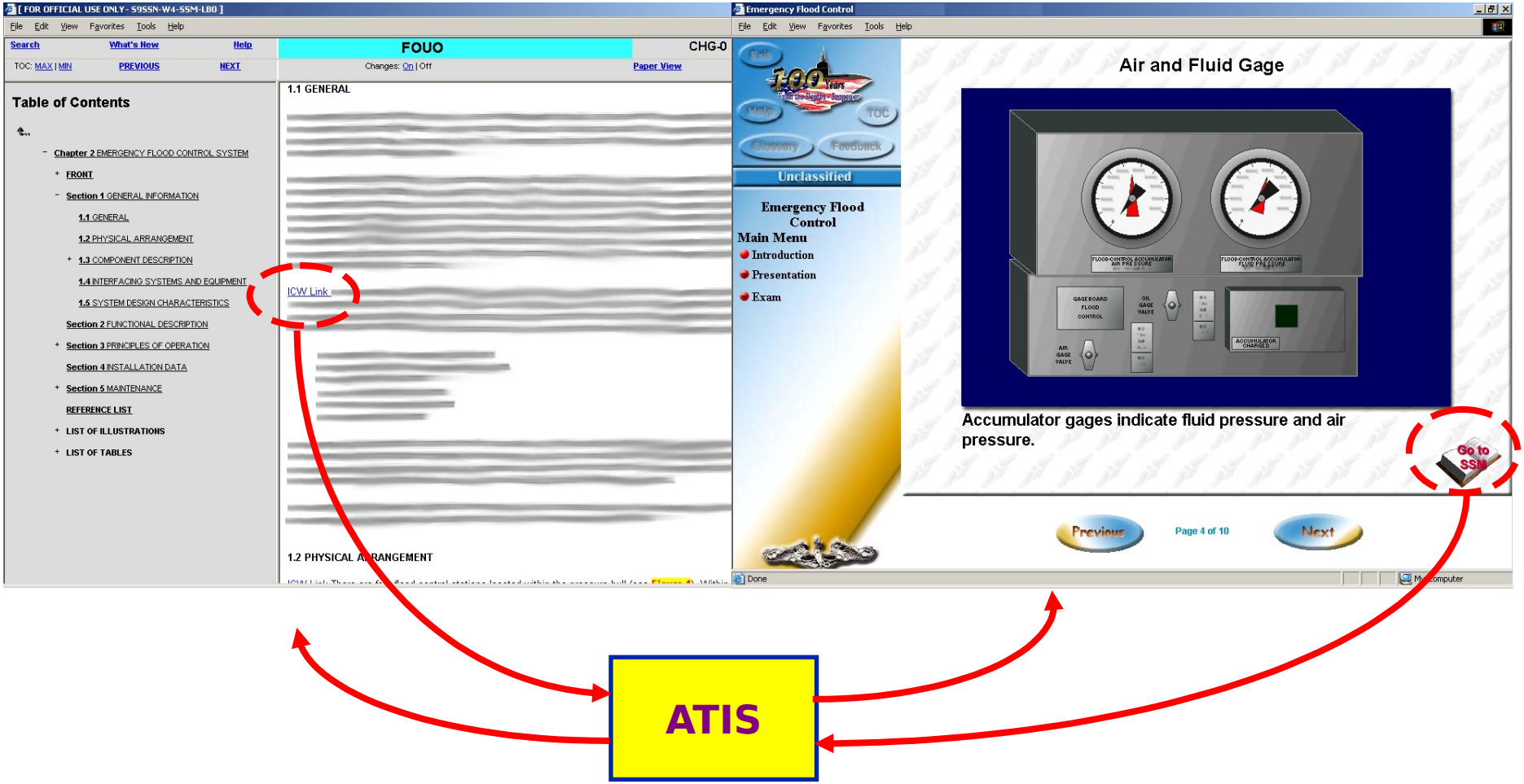

ETM CD Running in Local CD Drive
Standalone ATIS (Desktop or Laptop)
ATIS Index files containing ETM and ICW entry points
ICW CD Running in Local Hard Drive

3. No ATIS - Pure Stand-alone

- ***No linking available***

IPDN & MSW
Life-cycle Publishing Approach

- **Both products delivered as HTML & Linked thro**



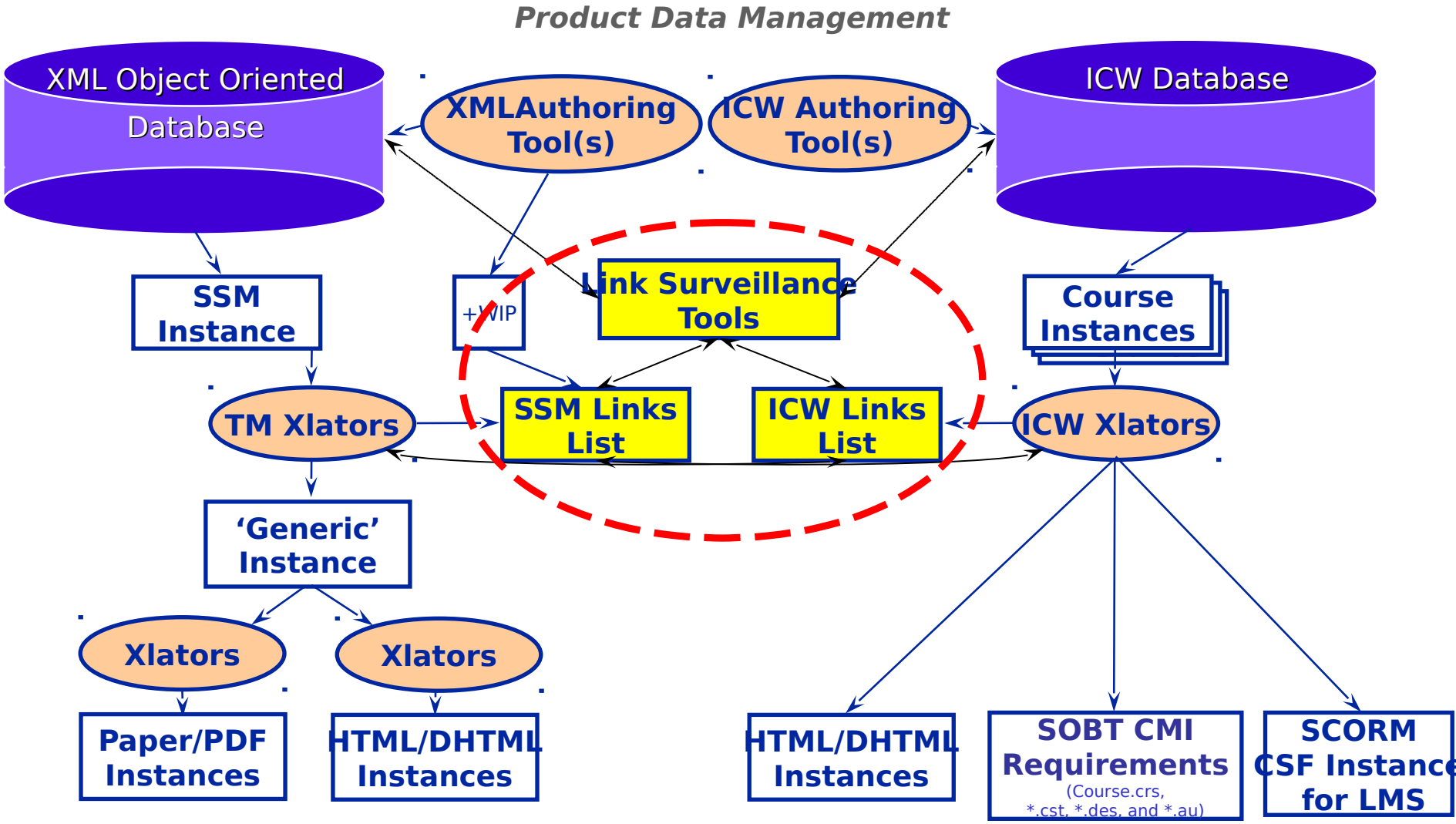
Why Linked through ATIS?

- Broken links are taboo.
  - Shows lack of control and configuration management.
  - Users lose confidence in product.

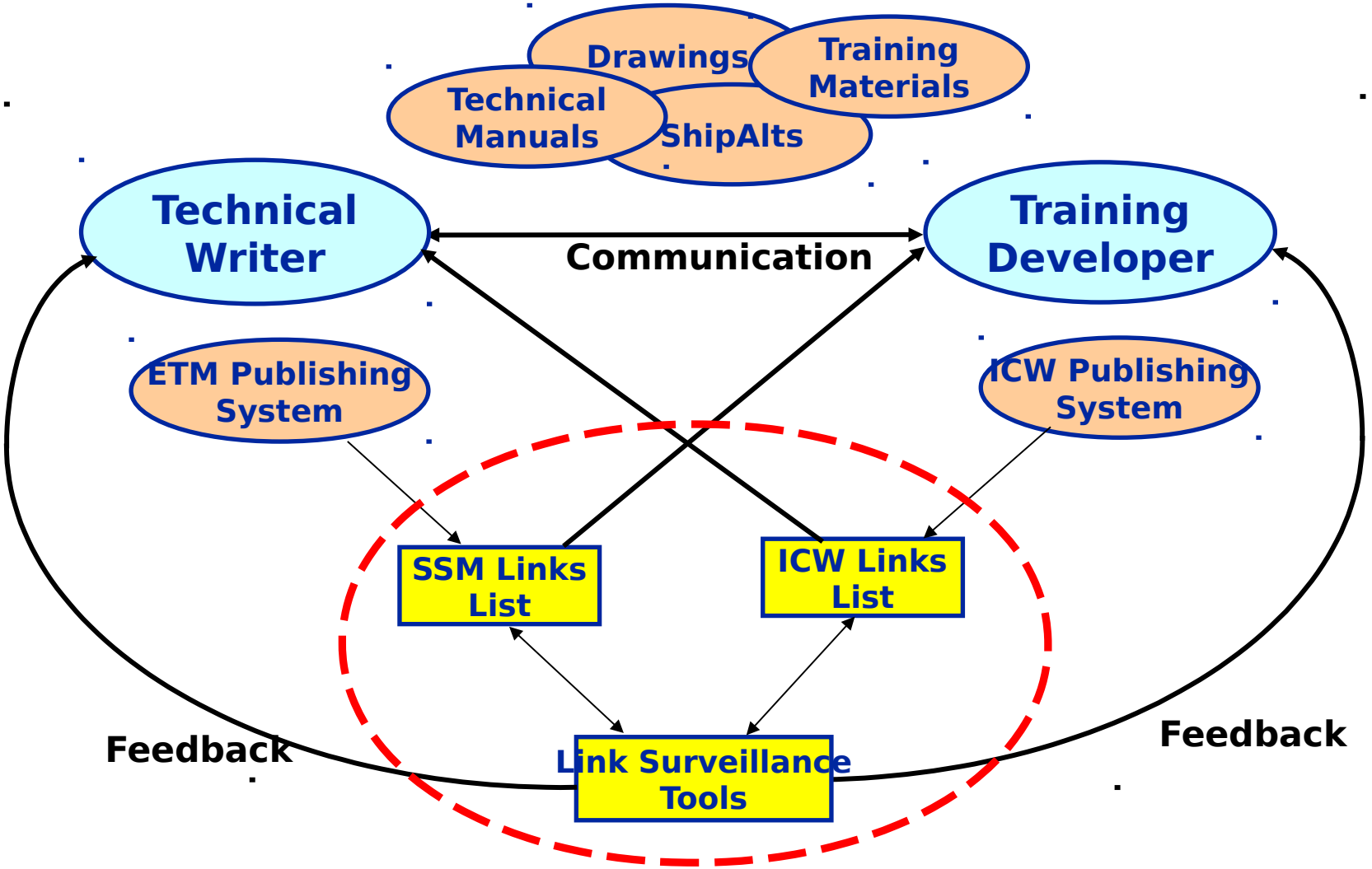
- Without ATIS
  - Difficult to ensure consistent and persistent file structure for linking.
  - No URL structure and conduit available for widespread distribution.

- Using ATIS
  - Each Manual's TMNIS Number consistent.
  - Volume ID's change but the interaction of each CD's IETM.NDX File, TDMIS, and ATIS provide configuration method for persistent links.

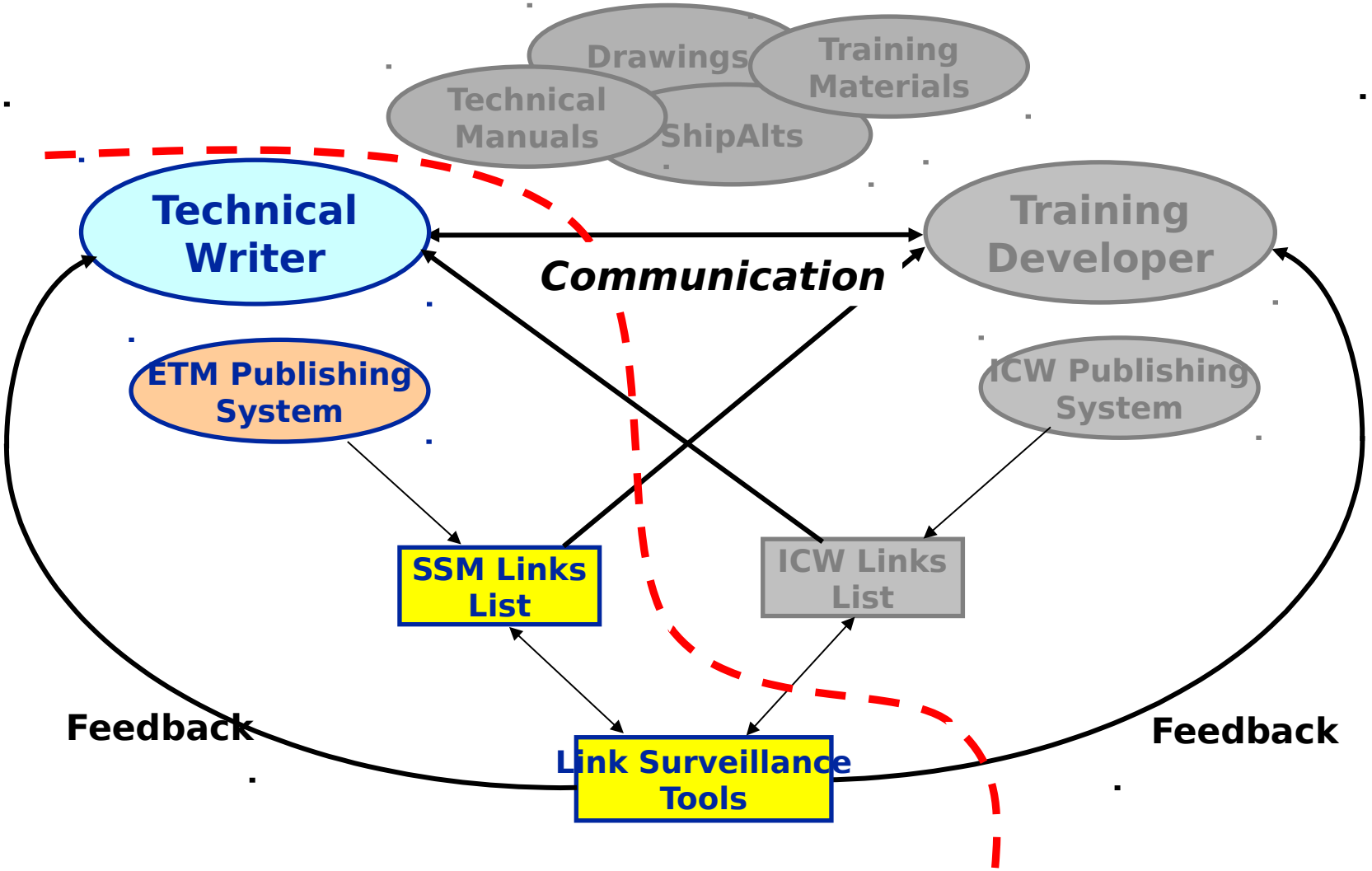
Process Lane Improvements - Architectural



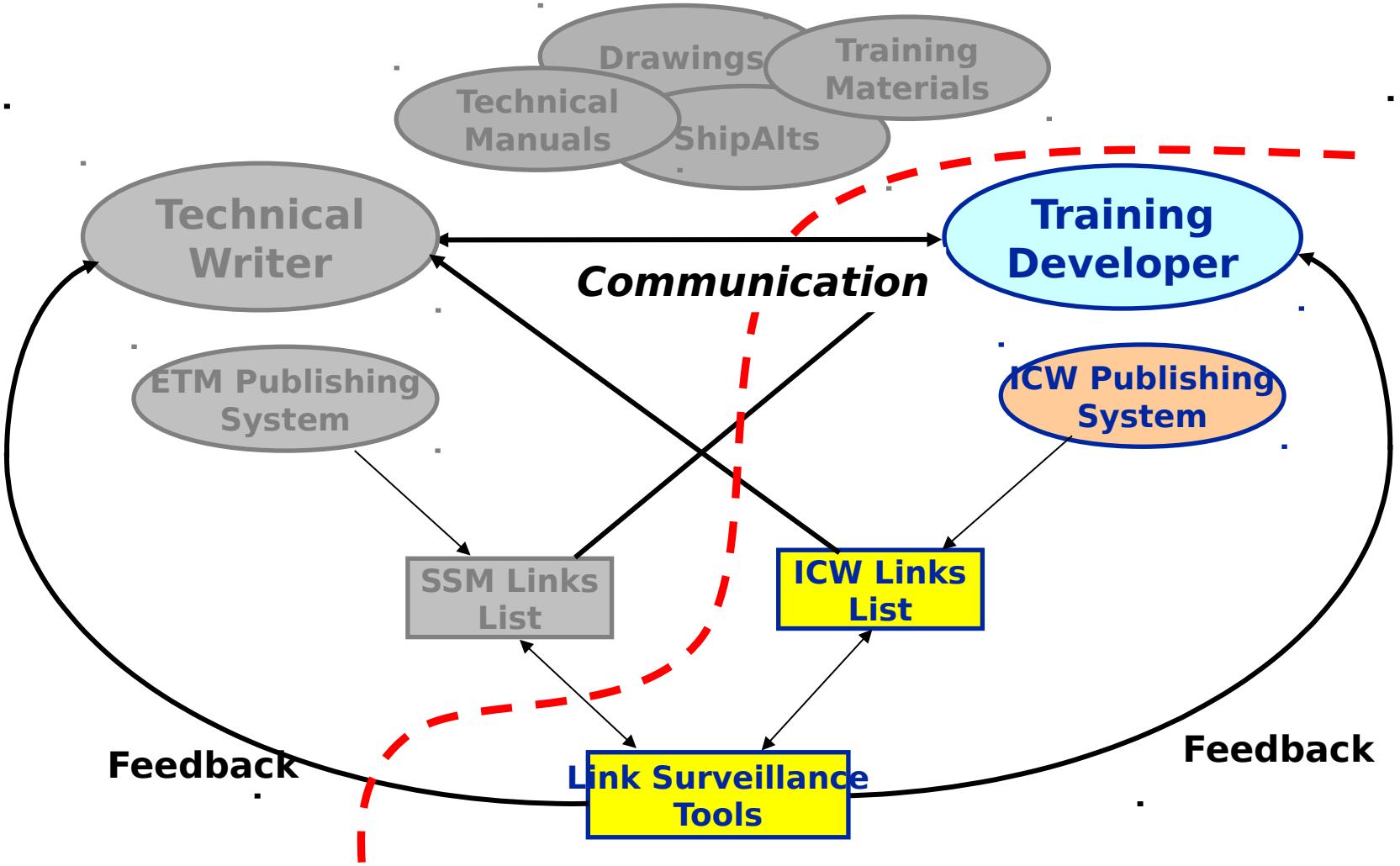
Process Lane Improvements - Functional



SSM Development Process



ICW Development Process



SSM & ICW Links List

SSM Links List

- Over 175,000 Potential Links
  - 558 for SSM 4-6-2
- SSM Links List Data Structure
  - Location, TMINS, ID, Label, Title, Object type, (**N**ew, **E**xisting, or **D**eleted)

Example:

V4-P6-C2, S9SSN-W4-SSM-LB0, LSV04CH2-SU1000001-L70C000D, 1.3.1, FLOOD-CONTROL ACCUMULATORS AND AIR FLASKS, STRUCTUREITEM, SUBPARA1, E

ICW Links List

- Presently over 65,000 potential links with 43 Lessons
  - 116 Screens, 1449 Video, Audio, Graphics for Emergency Flood Control
- ICW Links List Data Structure
  - Filename, Full Pathname, File use, Location, Screen Data
    - Part of SCORM Requirements

Example:

P-11-87, Major Components Objectives, List the components of the Emergency Flood Control System to include: Major isolation valves\, all activators\, accumulators\, and the valves they shut., Graphic of sample screen.

Success of Integrating SSMs and ICW

- SOBT realized a large increase in the requests for the SubQuals CBT CDs. The increase includes sailors requesting information on:
  - how to receive credit for the courses
  - how to load the CMI shell.

- One could rationalize the reason for this increase in activity:
  - The sailors studying the SSMs are utilizing the links to the training and want to continue their learning and qualifications.
  - Placing CBT on the ATIS network provides an easy method for the sailor to obtain access to training materials both in port and at sea. (Requires a TMNIS number for the CBT.)

Integrated SSM - ICW Simulation

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- Chapter 2 EMERGENCY FLOOD CONTROL SYSTEM
  - + FRONT
  - − Section 1 GENERAL INFORMATION
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    - 1.2 PHYSICAL ARRANGEMENT
    - + 1.3 COMPONENT DESCRIPTION
    - 1.4 INTERFACING SYSTEMS AND EQUIPMENT
    - 1.5 SYSTEM DESIGN CHARACTERISTICS
  - Section 2 FUNCTIONAL DESCRIPTION
  - + Section 3 PRINCIPLES OF OPERATION
  - Section 4 INSTALLATION DATA
  - + Section 5 MAINTENANCE
  - REFERENCE LIST
  - + LIST OF ILLUSTRATIONS
  - + LIST OF TABLES

1.1 GENERAL

[redacted]

ICW Link

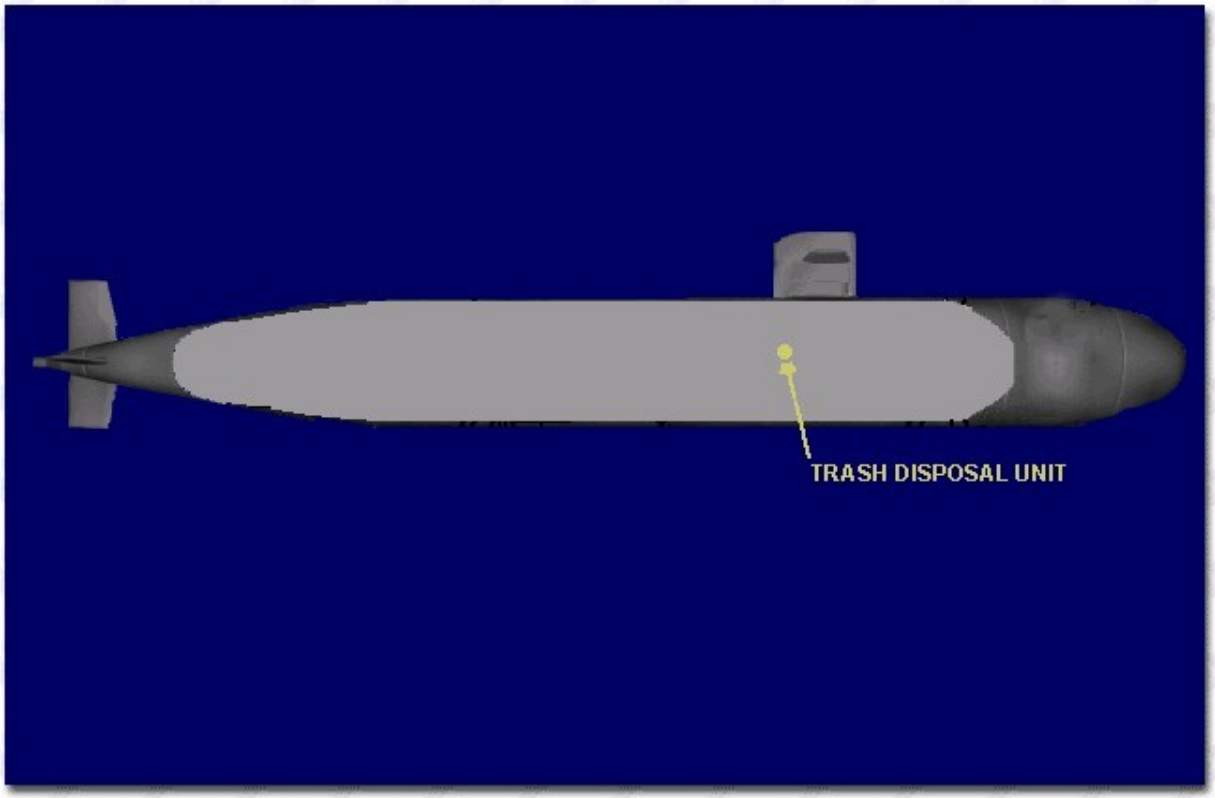
[redacted]

1.2 PHYSICAL ARRANGEMENT

ICW Link There are four flood control stations located within the pressure hull (see Figure 4). Within these

Emergency Flood Control
Main Menu
- Introduction
- Presentation
- Exam

Emergency Flood Control Capability



Supported systems include: Main Seawater, Auxiliary Seawater, Trim, Weapons Delivery, 3-inch Launcher, and Trash Disposal Unit

Go to SSM

KEEP YOUR EYES ON THE PRIZE!

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1.3.2 FLOOD-CONTROL GAGEBOARDS

ICW Link

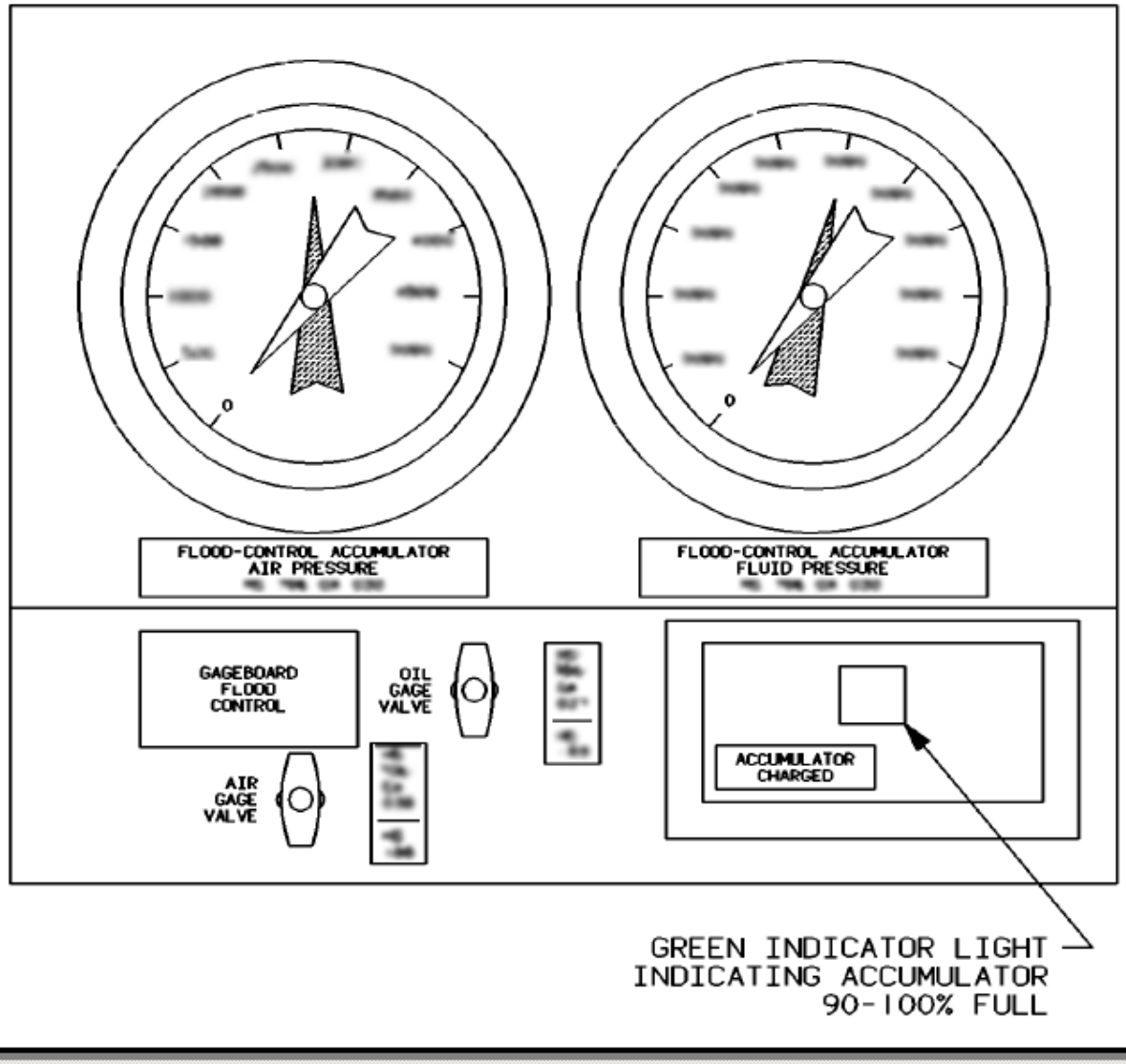
See Figure 3.

View Figure

Figure 3
TYPICAL FLOOD-CONTROL GAGEBOARD

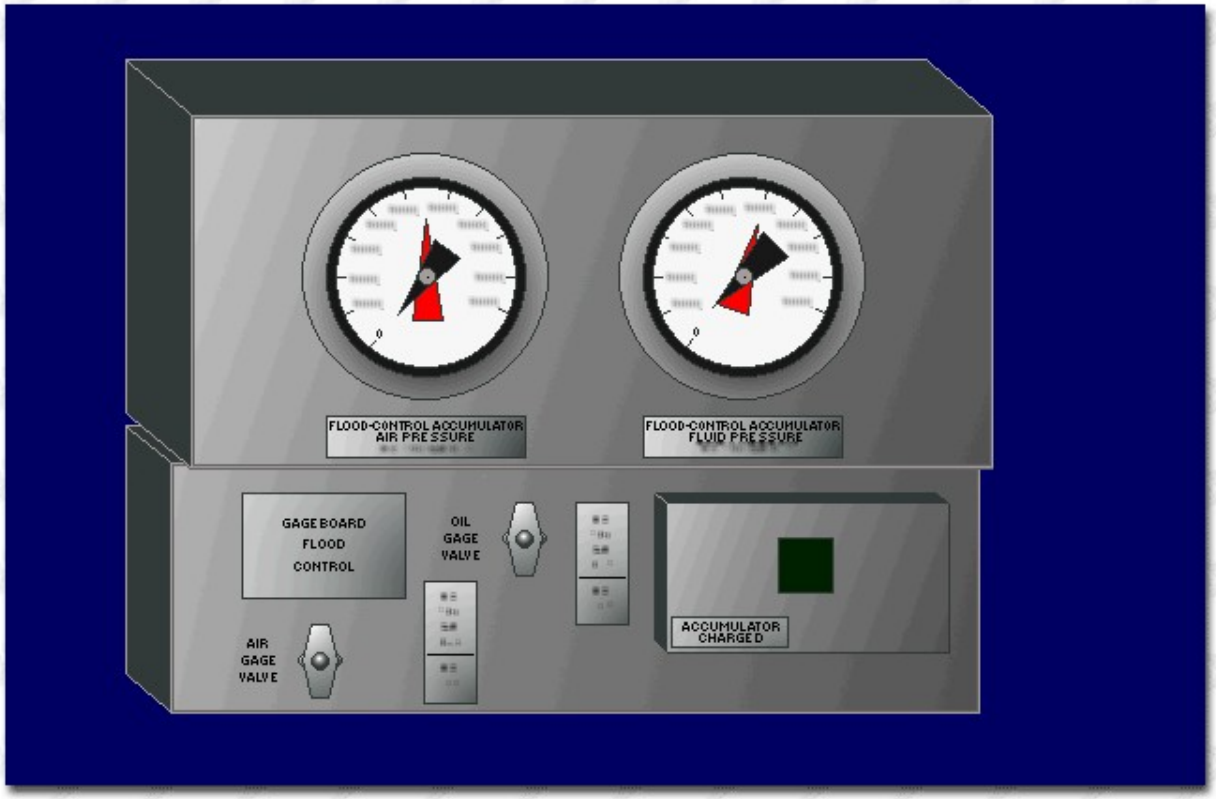
See Figure 3 for a layout of a typical flood-control gageboard

1.3.3 FLOOD-CONTROL PILOT VALVES


FLOOD-CONTROL ACCUMULATOR
AIR PRESSURE
FLOOD-CONTROL ACCUMULATOR
FLUID PRESSURE
GAGEBOARD
FLOOD
CONTROL
OIL
GAGE
VALVE
AIR
GAGE
VALVE
ACCUMULATOR
CHARGED
GREEN INDICATOR LIGHT
INDICATING ACCUMULATOR
90-100% FULL

Emergency Flood Control
Main Menu
- Introduction
- Presentation
- Exam

Engine Room Flood Control Gage Board



- Two Emergency Flood Control Accumulators in Engine Room
- Combined Flood Control Gage Board in Maneuvering

Go to SSM

Exit
Help
TOC
Glossary
Feedback

Unclassified

Emergency Flood Control

Main Menu

- Introduction
- Presentation
- Exam

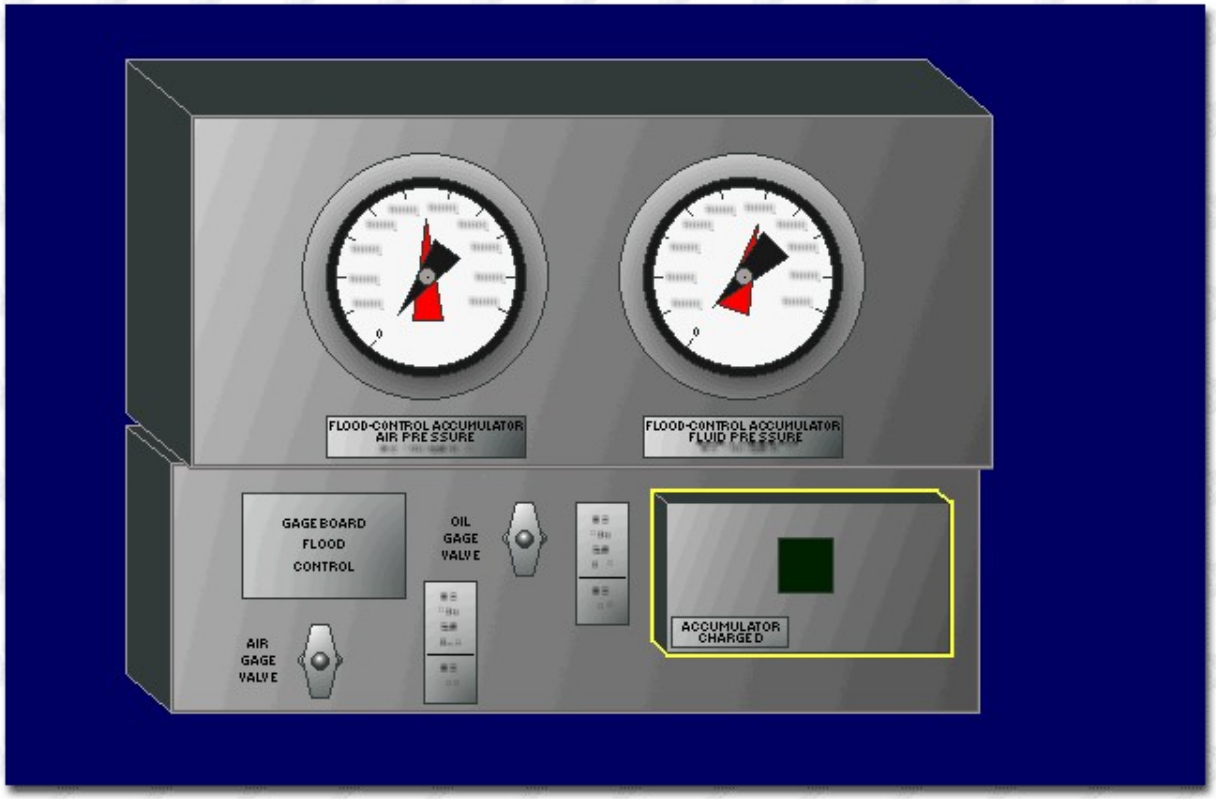
Air and Fluid Gage

Accumulator gages indicate fluid pressure and air pressure.

Go to SSM

Emergency Flood Control
Main Menu
- Introduction
- Presentation
- Exam

Green Indicator Light



Indicator light illuminated when fluid side of accumulator filled between 90 and 100 percent capacity

Go to SSM

Emergency Flood Control
Main Menu
- Introduction
- Presentation
- Exam

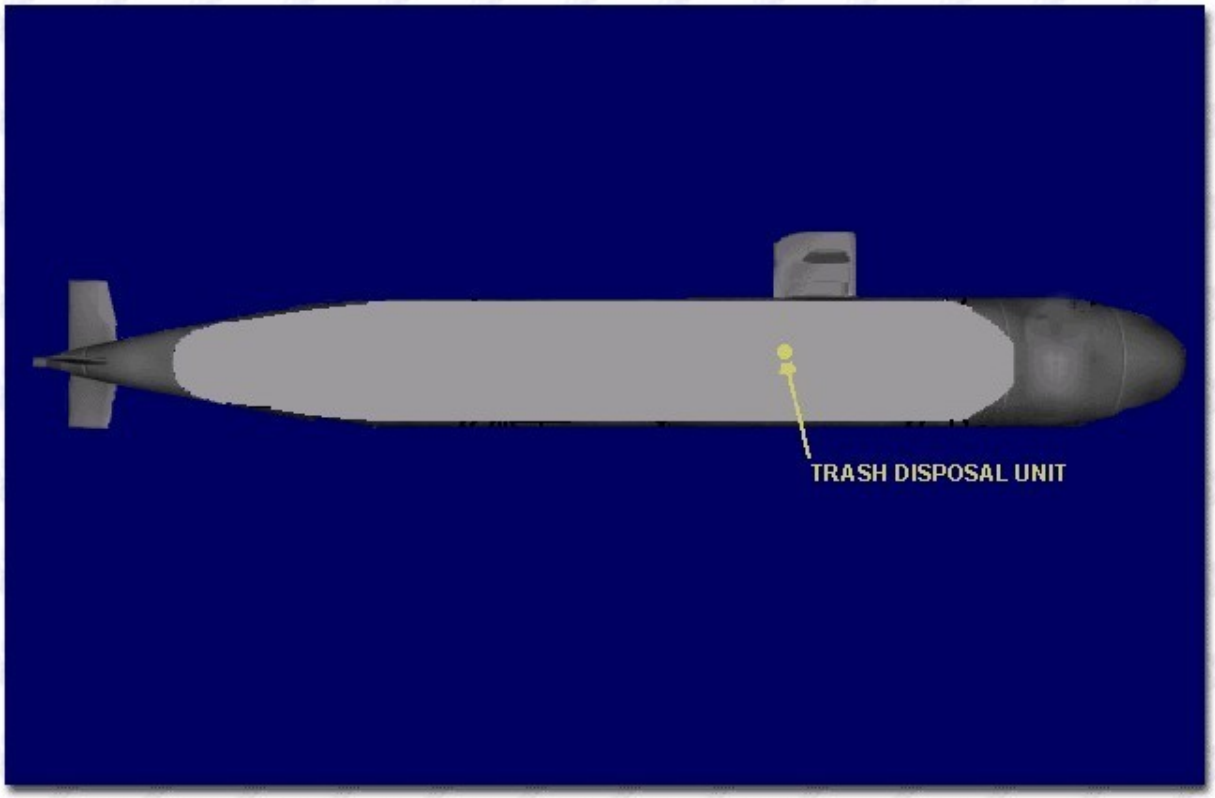
Green Indicator Light Goes Out

Indicator light goes out when accumulator cycles and expels fluid to below 90 percent full

Go to SSM

Emergency Flood Control
Main Menu
- Introduction
- Presentation
- Exam

Emergency Flood Control Capability



Supported systems include: Main Seawater, Auxiliary Seawater, Trim, Weapons Delivery, 3-inch Launcher, and Trash Disposal Unit

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1.1 GENERAL

ICW Link

1.2 PHYSICAL ARRANGEMENT

ICW Link

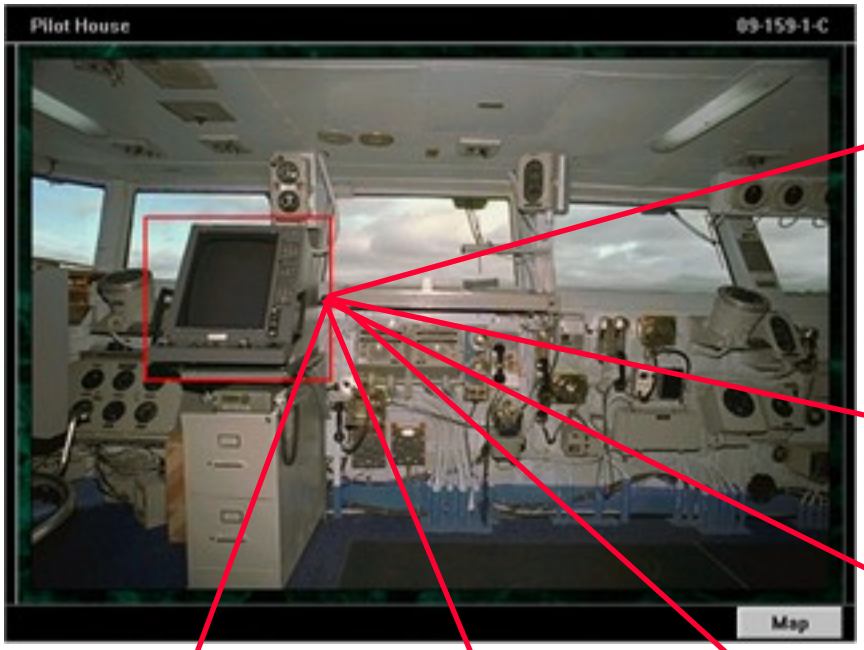
Integration and Reuse

- Training Developers use of Tech Docs
  - Valuable Source Material
  - Repurpose technical information
  - Enhance technical information
  - Little data sharing
- Tech Writers use of Training Materials
  - Current requirements hinder use of training media for paper delivery
  - Multimedia products enhance IETMs
- Challenges
  - Collaborative work by Trainers and Tech Writers
  - Embed Training into IETMs
  - Delivery one product vice two

Questions

Comments

Visual-Based Identification



Configuration Data

Item Name

_____

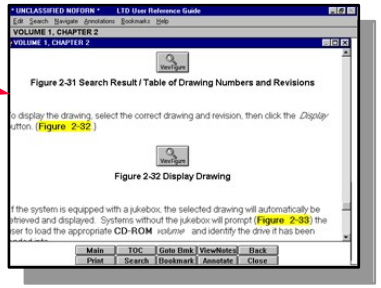
Mfgr _____

APL _____

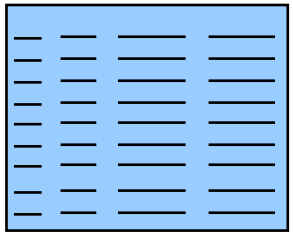
Serial Number

_____

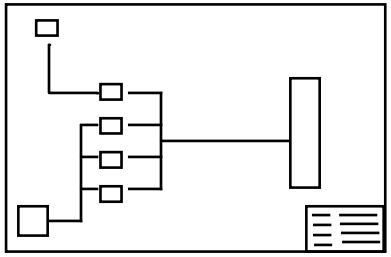
Electronic Tech Data



Digital Parts Catalog



Digital Drawings



Subject Matter Expert

Training & Simulation